

REMARKS

Claim 3 (2<sup>nd</sup> occurrence) is objected to because the number "3" has been used to number two consecutive claims.

Claims 3, 3( 2<sup>nd</sup> occurrence), and 12 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the applicant regards as the invention.

Claim 12 appears to be incomplete since the subject matter recited does not further limit subject matter already set forth in Claim 1, which Claim 12 is dependent from.

Claims 1-4, 12 and 13 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Hansen et al (US 5,589,256).

Claims 1, 5-11 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Hansen et al (US 5,589,256) as applied to Claims 1-4, 12 and 13 and further in view of Hansen et al (US 5,789,326).

The Objection of Claims 3, 3 (2<sup>nd</sup> occurrence)

Claim 3 (2<sup>nd</sup> occurrence) is objected to because the number "3" has been used to number two consecutive claims.

Claim 3, (2<sup>nd</sup> occurrence), and all subsequent original claims, Claims 4-13, inclusive, have been renumbered to Claims 4-14, inclusive. Claim numbers recited in the dependent claims have been renumbered to recite the correct dependency. Withdrawal of the objection is respectfully requested.

The Objection of Claims 3, 3 (2<sup>nd</sup> occurrence) and 12 under 35 U.S.C. § 112

Claims 3, 3( 2<sup>nd</sup> occurrence), and Claim 12 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the applicant regards as the invention.

Original Claim 12, amended as Claim 13, has been further amended by inserting "before" between "...cellulose mat" and "the application..." thus further limiting the Claim. Support for this is found on page 9, line 9. Withdrawal of the objection is respectfully requested.

The Rejection of Claims 1-4, 12 and 13 Under 35 U.S.C. § 103 (a)

Claims 1-4, 12 and 13 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Hansen et al (US 5,589,256).

Hansen teaches binding particles, such as superabsorbents, to fibers. Hansen also provides an improved method of densifying fibers, including high bulk fibers that have intrafiber crosslinks, column 2, line 31-33. Hansen accomplishes these objectives by providing fibers with hydrogen bonding functional sites and applying to the fibers a binder that has a volatility less than water, column 2, line 57-60. The binder has a functional group that is capable of forming hydrogen bonds with the fibers, and a functional group that is also capable of forming a hydrogen bond or coordinate covalent bond with particles that have a hydrogen bonding or coordinate covalent bonding functionality. A significant advantage of these binders is that the binder and particle together reduce the pressure required to reduce the pressure required to densify the fibers, column 2, line 57- column 3, line 2.

Hansen states that fibers that have high bulk from intrafiber covalent crosslinks are prepared by individualizing the fibers and curing them at an elevated temperature (above 150°C) and that initial application of the binder on these fibers preferably occurs *after* the curing step, particularly if the binder is capable of functioning as a crosslinking material. Hansen states however, that if the binders such as the polyols, polycarboxylic acids, and polyamines are present *during curing*, the binder will be consumed during the curing step to form covalently crosslinked bonds. When this occurs, the binder is no longer available for hydrogen bonding or coordinate covalent bonding and the particle binding to particles is ineffective, column 23, line 1-15. Accordingly, the Hansen reference teaches away from using a polyol during the curing step since that would result in loss of effectiveness of the binder, that is, it destroys the effectiveness of the binder, the very object that Hansen seeks to accomplish. Since there is no motivation in the Hansen reference to use polyols with a crosslinking agent to make crosslinked fibers and the reference teaches away from the claimed invention, the claimed invention is nonobvious. Withdrawal of the rejection is respectfully requested.

The Rejection of Claims 1, and 5-11, Under 35 U.S.C. § 103 (a)

Claims 1 and 5-11 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Hansen et al (US 5,589,256) as applied to Claims 1-4, 12 and 13 and further in view of Hansen et al (US 5,789,326). Withdrawal of the rejection is respectfully requested for the following reasons.

Claim 1 has been addressed above; Claims 5-11 are dependent from Claim 1.

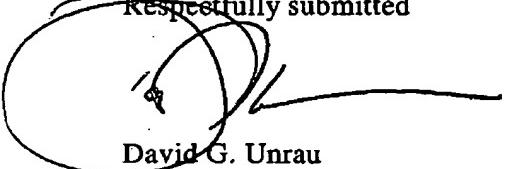
The '326 patent describes the binding of particles to fibers with binders. This is accomplished by providing fibers with hydrogen bonding functional sites and binders that have a volatility less than water, column 3, line 13-15. Like the '256 patent, the '326 patent reinforces teaching away from the claimed invention. The '326 patent states that fibers that have high bulk from intrafiber covalent crosslinks are prepared by individualizing the fibers and curing them at an elevated temperature (above 150°C). Initial application of the binder on high bulk fibers preferably occurs *after* the curing step particularly if the binder is capable of functioning as a crosslinking material such as dipropylene glycol which is a polyol. If such binders are present during curing the binder functionality will be consumed during the curing step to form covalently crosslinked bonds. When this occurs the binder functionality is no longer available for hydrogen bonding or coordinate covalent bonding and particle binding to fibers is ineffective , column 29, line 36-48.

Since crosslinking in the presence of a polyol causes the '326 patent and the '256 patents to become inoperable by destroying the intended function of the binder, and both references teach away from the claimed invention, there is no motivation to combine the references. The claimed invention therefore, is nonobvious. Withdrawal of the rejection is respectfully requested.

CONCLUSION

Based on the foregoing, Applicants submit that the application is in condition for allowance and request that it proceed accordingly. If the Examiner has any further questions or comments the Examiner is invited to contact the Applicants' agent.

Respectfully submitted



David G. Unrau

Registration No. 53, 710

Direct Dial 253-924-2439